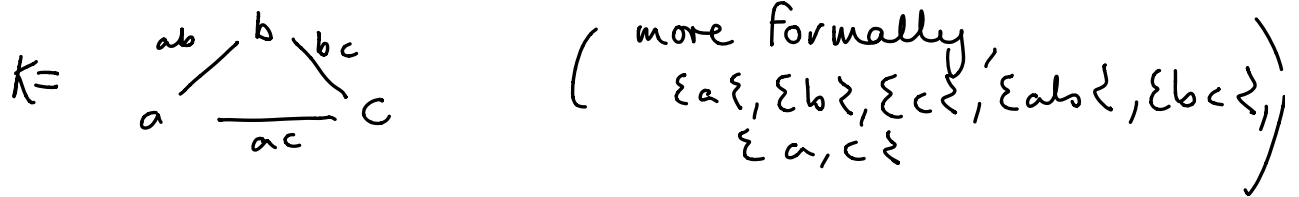
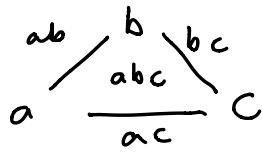


① Consider the simplicial complex



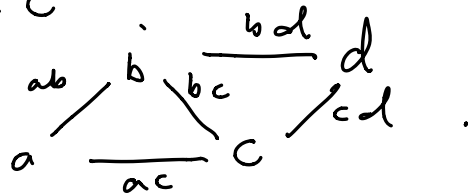
- Calculate the chain complex  $C(K)$  and its homology.

② Do the same for



③

And



④

And  $K = \underset{\circ}{a} \quad \underset{\circ}{b}$

⑤

Prove that if  $K$  is a simplicial complex then  $C(K)$  is in fact a chain complex - i.e.

Why does  $d_n \circ d_{n+1} = 0$  hold?  
To begin with, think about why

$$C(K)_2 \xrightarrow{d_0 - d_1 + d_2} C(K)_1 \xrightarrow{d_0 - d_1} C(K)_0$$

equals  $0$ .